

43. The polypeptide of claim 42, wherein the functional domain comprises an activation domain.

44. The polypeptide of claim 43, wherein the activation domain comprises VP-16.

45. The polypeptide of claim 42, wherein the functional domain comprises a nuclear localization signal.

46. The polypeptide of claim 45, wherein the nuclear localization signal is from the large T antigen of SV40.

47. The polypeptide of claim 42, wherein the functional domain comprises a repression domain.

48. The polypeptide of claim 42, wherein the functional domain comprises an epitope tag.

49. The polypeptide of claim 42, wherein the functional domain comprises an immunoglobulin or fragment thereof.

50. A polynucleotide encoding the polypeptide of claim 42.

51. A polynucleotide encoding the polypeptide of claim 43.

52. A polynucleotide encoding the polypeptide of claim 45.

53. A polynucleotide encoding the polypeptide of claim 47.

54. A method of altering expression of a chromosomal gene in an isolated cell, the method comprising the step of:

contacting a target site in the chromosomal gene with a designed zinc finger protein, thereby altering expression of the chromosomal gene.

55. The method of claim 54, wherein the zinc finger protein further comprises at least one functional domain.

56. The method of claim 54, wherein the altering comprises increasing expression of the chromosomal gene.

57. The method of claim 55, wherein the altering comprises increasing expression of the chromosomal gene.

58. The method of claim 54, wherein the altering comprises reducing expression of the chromosomal gene.

59. The method of claim 55, wherein the altering comprises reducing expression of the chromosomal gene.

60. The method of claim 54, wherein the isolated cell is a mammalian cell.

61. The method of claim 54, wherein the designed zinc finger protein is encoded by a nucleic acid molecule operably linked to a promoter and wherein the nucleic acid molecule expresses the zinc finger protein when administered to the cell.

63. The method of claim 55, wherein the functional domain comprises an activation domain.

64. The method of claim 62, wherein the functional domain comprises an activation domain.

65. The method of claim 63, wherein the functional domain is VP-16.

66. The method of claim 64, wherein the functional domain is VP-16.

67. The method of claim 55, wherein the functional domain comprises a nuclear localization signal.

68. The method of claim 62, wherein the functional domain comprises a nuclear localization signal.

69. The method of claim 67, wherein the nuclear localization signal is from the large T antigen of SV40.

70. The method of claim 68, wherein the nuclear localization signal is from the large T antigen of SV40.

71. The method of claim 55, wherein the functional domain comprises a repression domain.

72. The method of claim 62, wherein the functional domain comprises a repression domain.